

### Overview

#### HPE ProLiant DL385 Gen10 Plus - Carrier Grade Supplement

NEBS Level 3 and ETSI Certified

- This section lists some of the steps required to configure a Factory Integrated Model compliant with typically requested telecom carrier NEBS and ETSI requirements. In addition to the worldwide compliance criteria applied to the commercial version of the product, all components listed in this document have been evaluated to the following criteria: SR-3580, Level 3, NEBS Criteria Levels
- GR-1089-CORE, EMC & Electrical Safety
- GR-63-CORE, Physical Protections
- ETSI EN 300 386, Class A, EMC
- ETSI EN 300 019-2-1, Class 1.2, Storage
- ETSI EN 300 019-2-2, Class 2.3, Transportation
- ETSI EN 300 019-2-3, Class 3.1 & 3.1E, Stationary Use at Weather protected locations
- ETSI 300 132, Power Supply Interface to Telecom Equipment, -48VDC
- ETSI ETS 300 753, Acoustic Noise

To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

Factory Integrated Models must start with a CTO Server. FIO indicates that this option is only available as a factory installable option. All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server. Some options may not be integrated at the factory. Contact your local sales representative for additional information.

#### Notes:

To yield a carrier grade server that is compliant with all the required technical criteria, the product content is limited to what is listed in this document. In addition to this, system maintenance switch #10 must be turned to the "ON" position to enable the expanded operating temperature range and hardware from the following kits must be installed:

1. HPE DL38X Gen10 Plus Maximum Performance Fan Kit – P14608-B21
2. HPE DL38X Gen10 Plus High Performance Heat Sink Kit – P14610-B21
3. All installed PCI risers must be NEBS certified versions:
  - HPE DL38X Gen10 Plus Primary NEBS-compliant Riser Kit – P14575-B21
  - HPE DL38X Gen10 Plus Tertiary NEBS-compliant Riser Kit – P14577-B21

Please refer to the HPE DL385 Gen10 Plus Carrier Grade Conversion documentation on the HPE web site:

<http://www.hpe.com/services/hpsc>

## Configuration Information

This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

- Factory Integrated Models must start with a CTO Server.
- FIO indicates that this option is only available as a factory installable option.
- All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.
- Some options may not be integrated at the factory. Contact your local sales representative for additional information.

### Step 1: Base Configuration (choose one of the following configurable models)

<b>CTO Server</b>	<b>HPE ProLiant DL385 Gen10 Plus 8 SFF CTO Server</b>
<b>SKU Number</b>	P14278-B21
<b>Processor</b>	Not included as standard
<b>DIMM Slots</b>	32-DIMM slots**
<b>Storage Controller</b>	Choice of HPE modular Smart Array and PCIe plug-in controller
<b>PCIe</b>	Three standard in primary riser, upto Eight slots with 2 processors
<b>Drive Cage - included</b>	8 SFF
<b>Network Controller</b>	Choice of OCP or stand up card
<b>Fans</b>	4-Standard
<b>Management</b>	HPE iLO with Intelligent Provisioning (standard), iLO Advanced and OneView (optional)
<b>USB</b>	1x 3.0 standard plus iLo front service port

#### Notes:

- \*\* 32 DIMM slots require selection of 2 processors
- HPE offers multiple Trade Agreement Act (TAA) compliant configurations to meet the needs of US Federal Government customers. These products are either manufactured or substantially transformed in a designated country. TAA compliance is only provided when HPE options are included as part of factory integrated orders (CTO).
- TAA compliant configuration requires HPE DL385 Gen10 Plus TAA FIO Enablement Kit (P14282-B21)
- All CTO servers are Energy Star 3.0 compliant.

<b>CTO Server</b>	8 SFF CTO Chassis
<b>Included Drive Cage</b>	8 SFF SAS/SATA
<b>Universal Media Bay</b>	Optional
<b>ODD</b>	Optional
<b>8 SFF Drive Cage</b>	Up to 2 Optional
<b>8 SFF SAS/SATA/NVMe (Mid- plane)</b>	Not available
<b>8 NVME/SAS Bay</b>	Up to 2 Optional
<b>8 NVME Cage</b>	Up to 2 Optional
<b>2 SFF SAS/SATA (Front)</b>	1 Optional
<b>2 SFF SAS/SATA (Rear)</b>	1 Optional
<b>2 NVMe (Front)</b>	1 Optional
<b>4 LFF Mid-plane</b>	Not available
<b>4 LFF Rear</b>	Not available

**Notes:** This applies to CTO configurations, field upgrades may differ depending field configuration.



## Configuration Information

### Step 2: Choose Required Options (only one of the following unless otherwise noted)

Please select one –L21 processor required below.

For second processor, please select the same processor model with –B21 from Core Options – HPE Processors section.

For example: first processor, select P17537-L21 then for second processor, select P17537-B21.

#### Notes:

- Mixing of 2 different processor models are NOT allowed.
- DDR4 memory speed will depend on the quantity and type of DIMMs installed.

### Step 2b: Choose Memory Options

Please select one or more memory from below.

For new Gen10 Plus memory population rule whitepaper and optimal memory performance guidelines, please go to:

<http://www.hpe.com/docs/amd-population-rules-Gen10Plus>

For Gen10 Plus memory speed table, please go to: <http://www.hpe.com/docs/amd-speed-table-Gen10Plus>

#### Notes:

- Memory DIMM availability with a server platform is dependent upon completion of certification testing.
- The maximum memory speed is a function of the memory type, memory configuration, and processor model.

#### Registered DIMMs (RDIMMs)

HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07638-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit.	P07640-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07642-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07646-B21
HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07650-B21

#### Notes:

- Mixing of x4 & x8 memory is not allowed
- 3200 MT/s memory SKUs offer a transfer rate of 3200 MT/s at 1 DIMM per channel and 2933 MT/s at 2 DIMMs per channel

### Step 2c: Choose Power Supplies

Select one or two power supplies from below.

**Notes:** Mixing of 2 different power supplies is NOT allowed.

#### HPE Flex Slot Power Supplies

HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
HPE 1600W Flex Slot -48VDC Hot Plug Power Supply Kit	P17023-B21

#### HPE Power Cable Kits and Accessories

HPE 48VDC 2.85m Power Cable	Q0H80A
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**Notes:** HPE 2.85M, 48V DC Power Cable Kit (Q0H80A) can only be used with the HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit (865434-B21)

HPE 1600W -48VDC 600V 3.5m Power Cable Kit	P22173-B21
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**Notes:** HPE 1600W -48VDC 600V 3.5m Power Cable Kit (P22173-B21) can only be used with the HPE 1600W -48VDC Flex Slot Power Supply Kit (P17023-B21)

HPE 1600W -48VDC Power Cable Lug Kit	P36877-B21
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#### Notes:

- HPE 1600W -48VDC Power Cable Lug Kit (P36877-B21) contains lugs only no cabling is provided
- HPE 1600W -48VDC Power Cable Lug Kit (P36877-B21) can only be used with the HPE 1600W Flex Slot -48VDC Hot Plug Power Supply Kit (P17023-B21)



## Configuration Information

### Step 3: Choose Additional Factory Integratable Options

One of the following from each list may be selected if desired at time of factory integration

#### HPE Unique Options

HPE DL325 Gen10 Plus TAA-compliant FIO Enablement Kit

P14282-B21

**Notes:** This kit enables TAA compliance. HPE offers multiple Trade Agreement Act (TAA) compliant configurations to meet the needs of US Federal Government customers. These products are either manufactured or substantially transformed in a designated country. TAA compliance is only provided when HPE options are included as part of factory integrated orders (CTO)

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### Step 4: Choose additional options for Factory Integration from Core and Additional Options sections below

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## Core Options

### HPE Unique Options

HPE DL38X Gen10 Plus Universal Media Bay Kit P14609-B21

#### Notes:

- The HPE DL385 Gen10 Plus Universal Media bay provides front Display Port and 2xUSB 2.0
- This is a 8SFF model option only.

HPE DL38X Gen10 Plus System Insight Display Kit P14611-B21

HPE DL38X Gen10 Plus Maximum Performance Fan Kit P14608-B21

HPE DL38X Gen10 Plus High Performance Heat Sink Kit P14610-B21

**Notes:** Processor kits above 180W include a High Performance Heatsink.

HPE DL38X Gen10 SFF Box1/2 Cage/Backplane Kit 826691-B21

**Notes:** Supports 8 SAS/SAFA SFF drives in Box 1 or 2 to a max of 24 SFF SAS/SATA front

### HPE Processors

#### Processor Option Kits

#### HPE Memory

#### Registered DIMMs (RDIMMs)

HPE 8GB (1x8GB) Single Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit P07638-B21

HPE 16GB (1x16GB) Single Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit. P07640-B21

HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit P07642-B21

HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit P07646-B21

HPE 64GB (1x64GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit P07650-B21

#### Notes:

- The maximum memory speed is a function of the memory type, memory configuration, and processor model.
- Mixing of x4 & x8 memory is not allowed
- 3200 MT/s memory SKUs offer a transfer rate of 3200 MT/s at 1 DIMM per channel and 2933 MT/s at 2 DIMMs per channel

### HPE Optical Drives

HPE 9.5mm SATA DVD-ROM Optical Drive 726536-B21

#### Notes:

- HPE DL385 Gen10 Plus Universal Media Bay Kit (P14609-B21) is required for this option on a SFF model.
- Supported only on 8 SFF Models

HPE 9.5mm SATA DVD-RW Optical Drive 726537-B21

#### Notes:

- HPE DL385 Gen10 Plus Universal Media Bay Kit (P14609-B21) is required for this option on a SFF model.
- Supported only on 8 SFF Models

### HPE Drives

#### Enterprise - 12G SAS - SFF Drives

HPE 300GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD 870753-B21

HPE 300GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD 872475-B21

HPE 600GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD 870757-B21

HPE 600GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD 872477-B21

HPE 900GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD 870759-B21

HPE 1.2TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD 872479-B21

HPE 1.8TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD 872481-B21



## Core Options

### Midline - 12G SAS - SFF Drives

HPE 2TB SAS 12G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD 765466-B21

### Midline - 6G SATA - SFF Drives

HPE 1TB SATA 6G Business Critical 7.2K SFF SC 1-year Warranty HDD 655710-B21

HPE 2TB SATA 6G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD 765455-B21

### SSD Selection

To streamline the configuration process for HPE ProLiant Gen10 Plus servers and to provide the best product availability, HPE recommends SSDs from the list located here: <http://www.hpe.com/products/recommend>.

### Hard Drive Blank Kits

HPE Small Form Factor Hard Drive Blank Kit 666987-B21

### Media Bay Kits

HPE DL38X Gen10 Plus Universal Media Bay Kit P14609-B21

#### Notes:

- The HPE DL385 Gen10 Plus Universal Media bay provides front Display Port and 2xUSB 2.0;
- This is a 8SFF model option only.

## HPE Storage Options

### QLogic Fibre Channel HBAs

HPE SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter P9D94A

## HPE Networking

### 1 Gigabit Ethernet adapters

Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE P21106-B21

### 10/25 Gigabit Ethernet adapters

Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE P13188-B21

### 100 Gigabit Ethernet adapters

Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE P25960-B21

### OCP Adapters

Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE P08449-B21

Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE P10112-B21

#### Notes:

- Mellanox OCP NIC MCX562A requires HPE DL385 Gen10 Plus OCP Upgrade Cable Kit PN: P14603-B21 to support multi-host configuration
- OCP adapters do not consume PCIe slot.
- Only 1 slot is available for OCP adapters.
- Only SFF OCP adapters below 35W can be supported

HPE DL385 Gen10 Plus OCP Upgrade Cable Kit P14603-B21

### HPE InfiniBand

HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT Adapter P23666-B21

### HPE I/O Expansion Options

**Notes:** For a Secondary/Tertiary riser the second processor is required

HPE DL38X Gen10 Plus Primary NEBS-compliant Riser Kit P14575-B21

**Notes:** Requires selection of HPE DL38X Gen10 Plus Tertiary NEBS-compliant Riser Kit (P14577-B21)



## Core Options

HPE DL38X Gen10 Plus Tertiary NEBS-compliant Riser Kit

P14577-B21

### Notes:

- Requires selection of a 2nd processor
- Required to add additional x16 PCIe Gen4 lanes for Primary/Secondary Riser3

## HPE Computation and Graphics Accelerator

Part number	Card	QTY per Server	CPU Supported
ROW29C	HPE NVIDIA Tesla T4 16GB Computational Accelerator	8	240W or below

NVIDIA T4 16GB Computational Accelerator for HPE

ROW29C

## Riser Information\*

Part number	Description	Riser position			Bus width (Gen4 lanes)			NVMe Direct Connect	
		Primary	Secondary	Tertiary	Top slot	Middle Slot	Bottom slot	Ports	Drive count
P14575-B21	HPE DL38X Gen10 Plus Primary NEBS-compliant Riser Kit	O	O	N	0	0	0	0	0
P14577-B21	HPE DL38X Gen10 Plus Tertiary NEBS-compliant Riser Kit	N	N	O	0	0	0	0	0

**Notes:** Y = supported; D = default on Chassis; O = optional; N = not supported or slot/connector not present.



## Additional Options

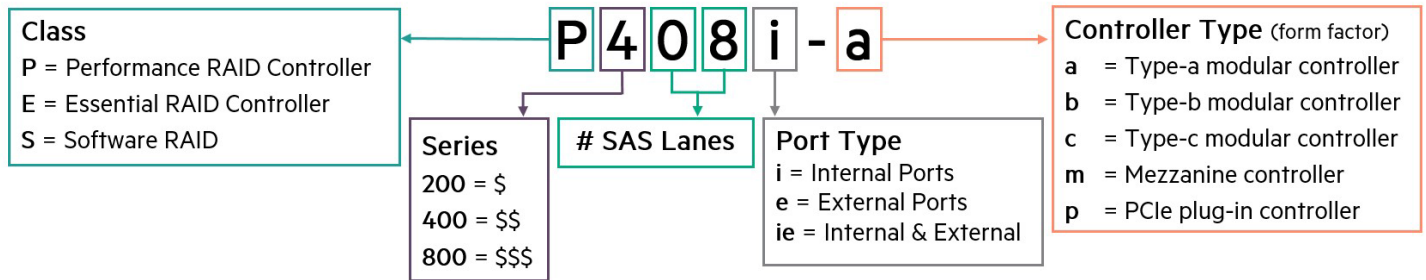
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### HPE Security

HPE Gen10 2U Bezel Kit

867809-B21

### HPE Smart Array Controllers



### HPE 96W Smart Storage Battery (up to 20 Devices) with 145mm Cable Kit

**Notes:** All performance RAID controllers are supported by the HPE Smart Storage Battery (P01366-B21), which supports multiple devices and is sold separately.

HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller 804338-B21

**Notes:**

- Does not occupy a PCIe expansion slot and includes SmartCache license.
- Does not include P816i-a cable

HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller 804331-B21

**Notes:** Does not occupy a PCIe expansion slot.

HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS PCIe Plug-in Controller 830824-B21

HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller 804405-B21

### Essential RAID Controllers

HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in Controller 804394-B21

HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller 804398-B21

HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular Controller 804326-B21

**Notes:** Does not occupy a PCIe expansion slot.

HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit P01366-B21

HPE Smart Storage Hybrid Capacitor with 145mm Cable Kit P02377-B21



## Additional Options

### Rail Kits

#### Notes:

- Hewlett Packard Enterprise recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.
- CTO Models do not ship with rail kits, they need to be ordered separately
- HPE rail kits are designed to work with HPE racks in compliance with industry standard EIA-310-E. In the event a customer elects to purchase a third-party rack for use with an HPE rail kit, any such use is at customer's own risk. HPE makes no express or implied warranties with respect to such third-party racks and specifically disclaims any implied warranties of merchantability and fitness for a particular purpose. Furthermore, HPE has no obligation and assumes no liability for the materials, design, specifications, installation, safety, and compatibility of any such third-party racks with any rail kits, including HPE rail kits.

HPE DL38X Gen10 Plus 2U Cable Management Arm for Rail Kit P22020-B21

HPE DL38X Gen10 Plus 2U SFF Ball Bearing Rail Kit P22021-B21

**Notes:** Supported on SFF Model only

### HPE USB and SD Options

#### HPE Enterprise Mainstream Flash Media Kits for Memory Cards

HPE 32GB microSD RAID 1 USB Boot Drive P21868-B21



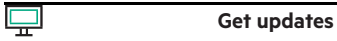
## Summary of Changes

Date	Version History	Action	Description of Change
18-Mar-2024	Version 2	Changed	Additional Options section was updated.
07-Dec-2020	Version 1	New	New QuickSpecs.



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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less

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